Processing Level Humanizer Candidates

NASA has defined a set of processing levels to be used in describing EOSDIS data. These range from level 0 to level 4 and those definitions can be found here, and in a table at the bottom of this page. A more detailed definition of the levels can be found in the Earth Science Reference Handbook published in 2006.

ECS, ECHO, GCMD, and UMM all contain metadata fields for Processing Level Id. Unfortunately, all of these fields allow free text resulting in many collections that contain Processing Level Ids that are not a part of the standard NASA levels described above.

The plan is to concatenate the standard NASA Processing levels with the Short Descriptions (2nd table below). Note that there are 3 things going into this attempt at humanizing:

1. More explanatory terms (e.g., gridded)
2. Fitting as much information scent into the start of the term, as long terms are cut off in the EDSC facets. Hence the abbreviations. (Bleah. Sigh.)
3. Dealing with non-NASA-standard processing level designations (2A, 2P, etc.)

The first section provides a set of Humanizer Candidates that we propose for use in mapping non-standard Processing Level IDs into standard NASA levels. In most cases, the mapping was difficult since the original data producers felt that the products didn't fit into any of the standard NASA levels. For the purposes of CMR, we have mapped all of these non-standard levels into NASA levels by searching for the best fit to the NASA descriptions. The following table lists the candidates.

Current Processing Level ID	Proposed NASA Level	Applicable Collection Group	Rationale for Mapping	Disposition YES= Approved By ESDIS DISCUSS = Additional discussion Needed
1T	1B	Aster	The ASTER Level 1T data contains calibrated at-sensor radiance that has been geometrically corrected, and rotated to a north-up UTM projection. We map them to L1B since they are in Sensor Units at L1 resolution.	Y
2A	1B	QuikSCAT	The QuikSCAT 2A data are Surface Flagged Sigma0s at 12.5km and 25km resolution. Similar to ASTER L1T, we map the QuikSCAT 2A products to L1B since they are in Sensor Units.	DISCUSS: PO.DAAC to make the call
2B	2	QuikSCAT	The QuikSCAT 2B products contain Ocean Wind Vectors at 12.5km and 25km resolution. Since Ocean Wind Vectors are geophysical parameters produced from L1 sensor units, we map these products to Level 2.	Y
2G	3	MODIS	The MODIS L2G products map L2 data onto a uniform global grid with averaged daily temporal resolution. This meets the definition of Level 3 data since it contains "Variables mapped on uniform space-time grids".	Y (Also applies to OMI)
2P	2	GHRSST	GHRSST procesing centers collate level 2 satellite SST measurements within their region or for their sensors, perform quality assessment and reissue the data in a common format. Since this data is collated L2, we map the 2P level to NASA level 2.	Y
3U	3	GHRSST	GHRSST Level 3U are a gridded version of the ACSPO VIIRS L2P products. This meets the definition of level 3 data since it contains "Variables mapped on uniform space-time grids".	Y
L1T	1B	Landsat	The "Tri-Decadal Global Landsat Orthorectified TM and ETM" products are ortho-rectified mosaics of Landsat TM and ETM+ images. Even though these products are not produced from L1A data, we map them to level 1B since these are in sensor units at L1 resolution.	DISCUSS: LPDAAC to make the call
Level 1	1		definition	Y
Level 2	2		definition	Y
Level 3	3		definition	Y

NA	L1B	WELD	The WELD 30m CONUS Images are composite mosaics of Landsat L1T data that has been mapped onto a regular 30m grid to provide consistent data for deriving land cover, geophysical, biophysical products. Since they contain Sensor Units at L1 resolution, we map these WELD products to L1B.	DISCUSS: LP DAAC to make the call

The table below presents the humanizer candidates for Processing Level Short Descriptions. It also contains the standard NASA Processing Level Definitions from the NASA HQ SED site and the definitions from CEOS (on earthdata) for the readers convenience.

NASA Processing Level	Proposed Processing Level Short Description	NASA HQ SED Standard Processing Level Definition	CEOS Definition
0	Raw Data	Reconstructed, unprocessed instrument/payload data at full resolution; any and all communications artifacts, e.g., synchronization frames, communications headers, duplicate data removed. In most cases these data are provided by EDOS to a DAAC as Production Data Sets for processing to the SDPs in the DAAC or by the SIPS to produce the higher-level products.	Reconstructed unprocessed data at full space-time resolution with all available supplemental information to be used in subsequent processing (e.g. ephemeris, health and safety) appended.
1A	Radiance	Reconstructed, unprocessed instrument data at full resolution, time-referenced, and annotated with ancillary information, including radiometric and geometric calibration coefficients and georeferencing parameters, e.g., platform ephemeris, computed and appended but not applied to the level 0 data.	Reconstructed unprocessed data at full resolution, time-referenced, and annotated with ancillary information, including radiometric and geometric calibration coefficients and geo-referencing parameters (e.g. ephemeris) computed and appended but not applied to the Level 0 data.
1B	Radiance, Sensor Coordinates	Level 1A data that have been processed to sensor units (not all instruments have level 1B data products).	Radiometrically corrected and calibrated data in physical units at full instrument resolution as acquired.
1C	(There are no collections labeled 1C in CMR)	(There is no L1C in NASA standard definitions)	L1B data orthorectified, re-sampled to a specified grid
2	Geophys. Variables, Sensor Coordinates	Derived geophysical variables at the same resolution and location as the level 1 source data.	Derived geophysical parameters (e.g. sea surface temperature, leaf area index) at the same resolution and location as Level 1 source data.
3	Gridded Geo physical Variables	Variables mapped on uniform space-time grids, usually with some completeness and consistency.	Data or retrieved geophysical parameters which have been spatially and/or temporally re-sampled (i.e. derived from Level 1 or 2 products), usually with some completeness and consistency. Such re-sampling may include averaging and compositing.
4	Gridded Model Output	Model output or results from analyses of lower level data, e.g., variables derived from multiple measurements.	Model output or results from analyses of lower level data (i.e., variables that are not directly measured by the instruments, but are derived from these measurements; could be derived from multiple instrument measurements).